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*The Right Hon<sup>ble</sup>. Frederick J. Robinson  
with the most profound respects of the Author.*

THE  
HUNTERIAN ORATION,  
DELIVERED BEFORE  
THE ROYAL COLLEGE OF SURGEONS,  
ON MONDAY, FEBRUARY 14, 1825,  
AND PUBLISHED AT THEIR REQUEST.

BY WILLIAM NORRIS,  
PRESIDENT OF THE COLLEGE,  
AND SURGEON TO CHARTER-HOUSE AND THE MAGDALEN HOSPITAL.

LONDON:

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PRINTED FOR T. CADELL, IN THE STRAND;  
BY J. M'CREEERY, TOOKS COURT, CHANCERY LANE.

1825.

HUNTERIAN ORATION.

THE ROYAL COLLEGE OF SURGEONS.

AND PUBLISHED AT THEIR REQUEST.



LONDON:

PRINTED FOR J. JOHNSON, IN THE STRAND,  
BY A. WATKINS, BOOK BINDER, CHURCH LANE.

HAVING endeavoured to discharge the duty of paying the annual tribute of respect to the memory and talents of JOHN HUNTER, in the year 1817 ; and having again had the honour of being elected to the same gratifying office, I, very respectfully, submit the following short sketch.

The subject is most ample, and my principal difficulty was in confining myself to a *mere outline*, which, however, will be more adequately filled up than I am able, by my successors.

W. N.

*Old Jewry,  
3rd May, 1825.*





THE  
HUNTERIAN ORATION.

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GENTLEMEN,

THIS annual commemoration of the birth of JOHN HUNTER is dedicated to the grateful notice of that very distinguished and extraordinary man, and is directed by its liberal and pious founders (Sir Everard Home and the late amiable and learned Dr. Matthew Baillie,) to be “ expressive of his merits in Comparative Anatomy, Physiology, and Surgery; and also of those persons who

are or shall be, from time to time, deceased, whose labours have contributed to the improvement and extension of Chirurgical Science.”

In this extensive field, bestrewed with innumerable flowers and fruits of the most beautiful and useful kind, the man of a contemplative mind, and who properly estimates the successful exertions of genius and strong intellectual powers, may wander for an unlimited length of time, delighted, refreshed, and improved. Those studies, which are directed to the advancement of natural knowledge, to the alleviation of human sufferings, and to the preservation of life, will readily be allowed to be amongst the first that are deserving of the cultivation of man. The medical profes-



sion has, therefore, been always held in high estimation amongst polished nations ; and the physician or surgeon who had the happiness to render himself distinguished by splendid discoveries and successful practice, was accounted the pride and blessing of his country.

In every class of society, a man of extraordinary mental powers has occasionally appeared ; and the humble, unlettered, but ingenious mechanic has contributed his full share to the honour, the wealth, and the power of his country, as the various stupendous establishments, and the machinery, of almost miraculous power and execution, in this kingdom, amply testify.

The enterprising merchant, whilst accumulating a princely fortune, promotes

the power and wealth of his own country, and at the same time diffuses them over the world. The philosopher, ardently engaged in the study of the laws of nature, the mechanism of this globe, and the materials of which it is composed, is, almost daily, making some discovery by which the comforts of man are increased, and his personal safety from threatened perils, guarded. In each of those departments we have, at the present day, living instances of men who have eclipsed their predecessors at any period recorded in history.

These are advantages and proud distinctions, which, it should ever be kept in mind, we mainly owe to the nature of our government, which affords such protection

to life and property, and to the fearless exertion of intellect.

Being so circumstanced, those subjects which present the greatest probability of obtaining rank, independence, and honour, will necessarily be cultivated by all who properly appreciate such blessings, especially as in their attainment the good of mankind is equally promoted.

Upon a similar occasion to the present, we were gratified, last year, by a very eloquent oration from my distinguished friend and predecessor in this chair, who most happily illustrated the effects of genius and strong intellectual powers when directed to any particular object. But genius alone, however brilliant, and mental powers however strong and penetrating, are not



sufficient without patient and persevering study and cultivation; and as in the medical profession, this is eminently the case, to notice a few of those things which reflect honour upon it, and to facilitate the attainment of the most useful knowledge to those who aspire at distinction, will be my principal object in what I shall have the honour of addressing to you; and these are to be considered as the mere sketch of an outline, our allotted time not admitting of a more lengthened detail.

There is no short way to science: in that of the Healing Art it is very long, and necessarily implies profound study, close research, and correct observation. In our more particular department of the medical profession, which is very properly deno-

minated an art and a science, these are indispensably necessary.

There are some primary considerations which should greatly influence the parents or guardians of a young person, who is destined to the study of Surgery.

He should have a clear eye, an acute sense of hearing, a distinct and unhesitating utterance, and be without any bodily defect.

He should have a taste for reading, reasoning, and general inquiry; and pains should be taken to ascertain whether he has a predilection for anatomical investigation; or whether there be a repugnance to such pursuits, without a patient and long continued exercise of which he never could hope to excel. In the latter

case, it should be the duty of his parents, whatever might have been their wishes, to instantly abandon all thoughts of his intended profession. On the supposition that every thing concurs favourably with the views of his friends, it should be borne in mind, that he is to be engaged in a profession which, now, is, happily, that of a gentleman, and, therefore, that his education should be liberal and extensive.

A well grounded knowledge in classical learning is indispensably necessary. Besides a correct knowledge of his own, a familiar acquaintance with the other modern languages, especially those of France and Germany, is of very great importance; and considering the free intercourse that now prevails amongst all civilized nations,



the great facility which would thus be afforded in acquiring a knowledge of the discoveries that are constantly in progress in those countries, is beyond estimation. The advantages arising from the ability of freely communicating with all Europeans at least, are, to a professional man, incalculably great, and cannot be too strongly inculcated.

There is no art or science, a knowledge of which is not convertible to great use in the profession of a practical surgeon; and a taste for drawing and perspective, and for mechanics, is highly deserving of encouragement, and as pleasing amusements, may be recommended in the intermediate hours of his more severe classical studies.

A knowledge of, or at least a taste for

botany, is also at this time easily and pleasingly acquired.

A familiar acquaintance with the manners and habits of birds, insects, and the lower animals, is now to be encouraged as a very useful preparation for further important inquiries.

His mind should now be directed to subjects of natural and experimental philosophy, the great outlines of which will readily be comprehended by one whose previous studies and amusements had so well prepared him for their reception.

His thoughts and reasoning powers now become expanded, he sees with delight those experiments performed which explain and demonstrate the truths which are already known to the world; and he pants

with the expectation of those discoveries which are reserved for himself to make.

He has the happiness, here, of having instructors in all those branches of science, and of seeing the greatest examples of their successful cultivation, that have yet appeared.

His attention will be drawn to the very important subject of Chemistry, by which he will become acquainted with the nature of those substances by which we are surrounded, and of their infinitely various combinations. The universality of the application of chemical knowledge can hardly be too strongly insisted on:—in medicine, it is indispensably necessary—in agriculture, it is most highly useful—and, in all the arts, essential. To the mere gen-

tleman and the man of study it is a never failing source of pleasure and amusement ; and all ranks are daily indebted to it for advantages and comforts, often without knowing the fountain from whence they are derived.

Every hour thus employed will bring its reward, for he will be delighted, made wiser, and silently, but necessarily, led to contemplate, with becoming awe and reverence, the great First Cause.

The young student will now be desirous of becoming acquainted with the structure of animated beings ; and every day will afford him opportunities, by the dissection of domestic animals, and of insects, to investigate and demonstrate the various apparatus by which they are fitted to perform those actions, and to enjoy that life,



to which they are destined. If these pursuits shall, happily, stimulate his ardent mind to proceed, he will next advance to the study of human anatomy, in every stage of which he will be amply compensated for his time and trouble. Independent of the exquisite pleasure to an ingenuous mind of acquiring knowledge, he will now be convinced that that knowledge is indispensably necessary to his future professional honour and fame.

Anatomy, therefore, he will cultivate with an ardour that is commensurate with its importance, in some of the justly celebrated schools with which this metropolis abounds; and he will employ his leisure hours in making anatomical preparations.

Although a correct knowledge of every

part of the body is required, there is not any that is more particularly deserving of his attention than the skeleton, and of every bone of which it consists; to closely examine how these are adapted to each other in the formation of the articulations; how admirably each is fitted for its intended use; how they are connected and confined by ligaments; and lastly, how they are acted on by the muscles. His knowledge of mechanics will here become useful, and will greatly assist him in becoming acquainted with, and in comprehending the most perfect structure.

A successful injection of the arteries, of the veins, and of the absorbents, of all or of any of the viscera, will greatly facilitate his inquiries, and will give him much

pleasure and afford him a source of genuine pride in after life.

In the course of his anatomical inquiries, he will pay very particular attention to the origin and distribution of the nerves, through whose influence such extraordinary effects are produced; that wonderful apparatus, upon the perfection of which, comfort, health, life, not only of a part, but of the whole body, occasionally, and instantaneously depend.

Having thus made himself familiarly and accurately acquainted with the structure of the various parts of the human body, he will now listen with delight and instruction, to the physiological lectures which he will hear delivered. Learning in this manner the uses in the animal œconomy, of

the various parts, of their dependance upon each other, and of their sympathies, arising from direct vascular, or nervous communications, his mind will be actively employed. He will find many phænomena very satisfactorily accounted for ; but he need not fear that there is still left abundance of sufficiently obscure subjects to exercise his ingenuity, his talents, and his scrutinizing judgment.

Upon a similar occasion to the present, Mr. Abernethy, after shewing the folly of a mechanic, whose business it was to rectify the errors of any complex machine, but who had neglected to render himself thoroughly acquainted with its structure, most truly adds, “ Yet equally absurd would be the conduct of medical men, were they to study



botany, pharmacy, chemistry, and natural philosophy, searching indeed through all the paths of nature, and the stores of art, for means of cure, and yet neglect anatomy, by which alone they can be able to distinguish the nature of the difference between health and disease, and consequently what is requisite to reconvert the latter into the former; which is the only circumstance that can render medicine a science.”

Having acquired a competent knowledge of the *materia medica*, which his former instructions in botany and chemistry will greatly facilitate, he will now devote himself, in a great degree, to the study of pathology. For this purpose, he will pass much of his time in hospitals, those admirable receptacles for the cure of disease,

and the alleviation of human suffering, and for the acquisition of the most valuable knowledge.

He will attend watchfully to the progress of disease, and to the means, whether by operation or otherwise, used for its cure; and he will lose no favourable opportunity of examining the dead. This will afford him the advantage of observing the changes produced in the structure of parts by disease, and not unfrequently of suggesting the benefit that might have been derived from a different remedial treatment; or, on the other hand, the demonstration of the incurable nature of the disease.

In every view, this inquiry is of the utmost importance, not unfrequently affording consolation to surviving relatives and

friends, and always contributing to pathological knowledge, not otherwise to be acquired.

After this course of study and observation, during which he should make himself well acquainted with the works of the ancient luminaries of our art, particularly of Hippocrates, Galen, and Celsus, his proficiency and acquirements being ascertained by an impartial examination, he will obtain our diploma, and be hailed as a member of our body. The man thus educated will be well qualified, whether as the instructor of others in the character of surgeon to an hospital; in the public service, as in the army or navy of his country; or wherever in civil life he shall practise his profession, may be assured of receiving,

in the estimation and regard of all good and wise men, the consideration to which he will be justly entitled. As the nature of his profession will frequently make him the depository of secrets which should not be divulged, he will be punctiliously delicate in his manners, and strictly moral in his conduct. In consultation with his brethren, he will be free, open, and communicative; and as there is no situation that requires greater delicacy, even to etiquette, he will spurn all trick and selfishness, and will studiously avoid every thing that borders on illiberality. As cases of a mixed and complicated nature frequently occur, which require the aid of the physician, considering the greatly improved state of every branch of the profession, he



will have the satisfaction of meeting a *gentleman* in the man of learning and science; and consequently the patient will have all the security to be derived from art, skill, and knowledge.

Those subjects of study that have occupied his attention, and a thorough knowledge of which is absolutely necessary to his becoming justly eminent in his profession, have this additional recommendation that, in every stage, his mind becomes expanded and prepared for the reception of the most sublime impressions and truths. No other pursuit can enable a man so directly and emphatically to “look through Nature up to Nature’s God.” And whilst he is thus inspired with sentiments of the most profound awe, reverence, and gra-

titude to the Supreme Being, he must necessarily, with pleasure, perform the next duty—love to mankind. As men are endowed with different capacities, and all have not the opportunities of liberal instruction, truth being his object, he will be tolerant to the opinions of others, and will endeavour to correct their errors by reason, and not by overbearing hauteur.

It is a great honour to the medical profession, and seems to be the legitimate effect and natural consequence of their course of studies, that during that epidemic phrenzy, which has occasionally afflicted and desolated all Europe, when man persecuted man on account of his opinions, no well educated physician or surgeon ever was an actor. This inoffensive conduct,

however, has not been sufficient to guard them against the fury of gloomy and bloody fanaticism, as the fate of the amiable, pious, and learned Servetus testifies ; and it would be very gratifying to be able to say, that the malady did not in any degree prevail, even at this day,—in some neighbouring countries.

It is hoped that this seeming digression will be excused, as it appeared to be naturally suggested by the consideration of that education, which it is meant to inculcate, being the most effectual preservative against a deplorable mental disease.

After the patient and laborious study which is necessary to constitute a well educated surgeon, it is peculiarly gratifying to see in this theatre several eminent

individuals who have, for a long series of years, been employed in the dissemination of anatomical and physiological science, the fruits of which are seen and acknowledged all over the civilized world. Some of these, grown old in years, and rich in honours and reputation, now seek repose from the more arduous practice of their profession, but still continue to give their invaluable assistance and advice in the furtherance of the great objects of the college, the promotion of surgical science, and of the public good.

To their most useful and honourable services is principally owing the elevated rank to which Surgery has now attained in this country; and to them we owe, because deserved, the fostering protection of



his late majesty. To our present king we are indebted, not only for splendid munificence, and many gracious acts of kindness and regard ; but also for all those specimens in natural history, presented to his majesty, that can be supposed to be contributory to the scientific purposes of our museum.

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To the very extraordinary genius and intellectual powers of the great man, whose birth we this day celebrate, several eloquent and grateful tributes have, from this chair, been paid ; but to enumerate in detail his discoveries and long continued researches, would imply the history and occupation of his mind through almost every hour of the day, and many of the

night, during the last twenty years of his life.

The ultimate object of this kind-hearted, generous, and amiable man was, the benefit of mankind, by the improvement and diffusion of anatomical, physiological, and pathological knowledge ; and many of his labours to this end have been expatiated upon by my distinguished predecessors. The life of man is too short to bring to any thing like perfection the great objects which Hunter had in view ; but what he has accomplished will never cease to be the theme of grateful admiration to succeeding ages, and it is hoped, an example to be followed by men of kindred minds.

When Hunter first began to make anatomical preparations, it is probable that he

had in view nothing farther than the illustration of the natural and healthy structure of the different parts of the human body. Daily occupied in this his favourite pursuit, the correctness of his dissections could only be equalled by the happy neatness and dexterity by which he displayed them. Thus employed, his fondness of anatomy soon became ardour—and ardour, enthusiasm. In the course of investigation in which he was engaged, he must have frequently met with deviations from natural and healthy structure, either in the form of *lusus naturæ*, or of those changes produced by accidents, wounds, or disease. Those occurrences never escaped the observation of his scrutinizing, reasoning, and comprehensive mind. They

were constantly noted down by him, accompanied by appropriate remarks ; and very frequently by illustrative drawings.

The general analogy which prevails in the structure of all animated beings, for the purpose of procuring food, and of converting it into proper aliment, and of distributing it to every part of the body—the various apparatus provided for animals destined to inhabit different media, to enable them to separate from the atmosphere that which is necessary to life, and to expel that which is become effete—in one order, lungs—in another, gills—whilst in another, respiration is carried on through the pores of the skin. Not only were these great and important functions known to Hunter, but by his accurate hand, his inquisitive



and searching mind, many subsidiary circumstances by which they were accomplished, were ascertained and explained.

Being now closely engaged in the study of comparative anatomy, it is almost incredible, the number of animals that were subjected to his investigation; the peculiarities in their structure were remarked, the parts were preserved and beautifully exhibited. These peculiarities constantly afforded to his ardent and fertile mind, matter for physiological deduction, the fruits of which are before the public. Of the wonderful extent of these labours, some idea may be formed when I state, upon good authority, that the records of them occupied no less than nine volumes in folio! and a tenth on the natural history

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of vegetables! This is the more wonderful, when it is considered that he was extensively engaged in the practice of an anxious and laborious profession.

Every object of his investigation in comparative anatomy, when it presented any thing new, constantly gave a fresh stimulus to his inquiring mind; and as the parts were preserved, his collection of preparations was every day increasing, until they amounted to a prodigious number. Hitherto he had only kept a list, or very imperfect catalogue of them; but as they had become so very numerous and multifarious, he at length perceived the necessity of classifying and arranging them in a scientific form. To accomplish this object became to him the source of the greatest

solicitude to the end of his life ; and that event having unexpectedly taken place, the catalogue was left in a very imperfect state.

The first endeavour at an arrangement that could afford a proper and interesting view of the whole, was, in the year 1793, and this was subsequently corrected, and partially improved in 1800, and in 1817.

This collection, which had been the great object of his life, both as a pursuit and an amusement, was now brought into a tolerable state of arrangement, and gave him, at length, the satisfaction of shewing to the public a series of anatomical facts, formed into a system, by which the œconomy of life was illustrated. He shewed it to his friends and acquaintance twice a year—in October to medical gentlemen,

and in May to noblemen and gentlemen, who were in town only during the spring ; and this custom he continued until his death.

But the time and consideration necessary to render perfect this very operose work, the collection now containing not less than thirty thousand preparations, and very many specimens of natural history, can be estimated by those only who have been and who are engaged in it.

It must be satisfactory to be informed, that the Board of Curators, than whom none can be more anxious to diffuse the knowledge of anatomical and physiological science, and to sustain the honour of Hunter, have laid down a plan for the completion of this great work ; that under their



superintendence, the Conservator is almost constantly employed upon it—that neither labour nor expense—neither assiduity nor care will be spared in bringing it to a conclusion as quickly as its nature will admit. It must also be very satisfactory to know that Mr. Clift continues to be the Conservator ; he who has been engaged in the care and preservation of the collection ever since the year 1792 ; whose zeal in the promotion of all its objects cannot be exceeded, and whose knowledge and talents are equal to his zeal.

A pleasing thought has occasionally presented itself to the mind, that if Hunter could see, and perhaps he does, the beautiful and perfect state in which this museum, the great labour of his life, is kept,

as far as mortals can judge, his present happiness would even be increased.

When contemplating the works of a great man, all who had the pleasure of being personally acquainted with him, have his person and manners before them, and, in imagination even hear his voice ; and those who have not had that advantage, take great interest in viewing the lineaments of his countenance in a well executed portrait. This college is peculiarly fortunate in possessing the picture which is now before you. It is, I believe, considered to be one of the most happy efforts of Sir Joshua Reynolds. It has often been admired, by good judges, as giving a very faithful representation of the countenance, the person, and the manner of Hunter.

These very essential points might, possibly, have been equally attained by other artists ; but there is another quality in which Sir Joshua was supposed to have peculiarly excelled—that of painting the *mind*.

This portrait is an example ; and it may fairly be presumed, that no man of observation can carefully examine it without feeling that the original was a being of very superior intellectual powers.

The materials, however, of which this, in the estimation of the college, invaluable treasure, is composed, are perishable, and an accident, of no uncommon occurrence, might instantly deprive them of it for ever. Whilst, however, Sir Joshua was engaged on this portrait, he requested Mr. Hunter

to let a cast be taken from his face, that he might the more deliberately study it during the intervals of his sittings. That mask, the existence of which had been entirely forgotten, was found amongst the lumber after Mr. Hunter's death, and from it a bust, equally happy in execution, has been made. As if destined for immortality, that marble, as durable as the world, will present, to future generations, a correct likeness of John Hunter, by Chantry, of our day the Praxiteles.

Accounts of the manner in which great men, in the various ages and nations of the world have employed their time, their talents, and their genius, have in several instances, from very remote antiquity, reached our time. A large proportion, no



doubt, of the fruits of their labours has been lost through the want of easy, free, and friendly communication amongst neighbouring countries; but the works of some great lawgivers, of learned physicians and surgeons, of laborious and accurate historians, and of inspired poets, have hitherto survived. These, and the ruins of temples and other edifices, demonstrative of the exquisite state of perfection to which the science of architecture had arrived, sufficiently prove the great extent of knowledge, of taste, and of refinement, which some countries formerly enjoyed, but of which they have long been despoiled.

Amongst those most highly distinguished was Greece, that favoured land of liberty, of genius, and of science—that land, the

birth-place of Hippocrates, of Democritus, and Galen; of Homer, of Demosthenes, of Xenophon, and of a thousand others, whose names are familiarized to us in all those seats of learning where the love of honour, virtue, and independence, is yet cherished.

Who has not shed a tear over the state of degradation to which that country, which has rendered the world its debtors, has long been reduced? The same malignant and destroying agents being still actively at work, it is fervently to be hoped that the noble, energetic, and heroic spirit now displaying by a people, worthy of the honoured stock from which they descend, will soon effect their deliverance from the shackles of the most ruthless barbarians.

That department of science and of know-

ledge to which our thoughts are at present more particularly directed, and on which the comfort and health of mankind so immediately depend, has, happily, of late years, had ardent, learned, and successful cultivators. At the head of these eminently stood Hunter, whose anatomical investigations and discoveries are so numerous, and whose physiological reasonings and illustrations are so perspicuous and satisfactory. He has had the rare merit of preserving, and of transmitting to us, those parts in human, comparative, and vegetable anatomy, from which his physiological deductions were drawn ; so that the identical subjects of his researches and illustrations, in very many instances

accompanied by explanatory drawings, can at any time be referred to.

Incessantly engaged in this his favourite study and occupation, he pursued it with all the ardour and enthusiasm of a young man, until unexpectedly arrested by death in the midst of his career.

He probably never thought of the honours that awaited his memory, nor of the great uses to which the fruits of his labours would, hereafter, be converted. But happily, the wisdom of our government, and the liberality of parliament, have made this collection our own, accompanying the gift by certain conditions which add incalculably to its value.

The principal of these conditions is the



delivery, annually, of a course of lectures on human and comparative anatomy, with the physiological and pathological deductions from thence to be drawn.

The orders of the Board of Curators are, that the subjects of those lectures be illustrated, as far as possible, by the preparations contained in the museum; and fortunately, this collection is so rich and so extensive as to require but few desiderata. This ample and beautifully displayed map of animated nature, which is frequently receiving additions from royal and other liberal and scientific contributors, we have the good fortune to possess.

To many of those whom I have the honour to address it is well known, that the important office of Professor has, from time

to time, been filled by gentlemen of the first-rate talents. To particularize them, at present, would not be consistent with propriety, nor indeed with delicacy; but my successors in this chair will, during many generations, record, with gratitude and pride, the names of men who have, in various ways, so eminently contributed to the honour of their profession by the diffusion of anatomical, physiological, and pathological science.

Their lectures in this theatre being partly comments upon and explanations of the various contents of the museum, have excited much interest, and been productive of extensive good. And in the departments of physiology and pathology, the illustration of the opinions and doc-

trines of its great founder, has been conveyed in language worthy of the subject, enforced with as much energy, and not unfrequently adorned with as much eloquence as consisted with the gravity of a didactic discourse.

Of the valuable labours of those gentlemen, in this department, the discharge of great public duties has in some instances deprived us; and in others, we have to deplore the loss which we have sustained by death.

But we have no reason to be dismayed, for,

Primo avulso, non deficit alter  
Aureus; et *simili* frondescit virga metallo.













